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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,577	12/29/2000	Ross Miller	AT00092	8368

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ALIGN TECHNOLOGY, INC.  
ATTENTION: BAO Q. TRAN  
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EXAMINER
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WILSON, JOHN J

ART UNIT	PAPER NUMBER
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3732

DATE MAILED: 08/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/751,577

Applicant(s)

MILLER, ROSS

Examiner

John J. Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 July 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews (4591341) in view of Bergersen (3950851) and Kurz (4348178) and Andreiko et al (5454717). Andrews teaches that it is known to use a bracket and wire system, column 1, lines 15-17, followed in series by using a mouthpiece, column 1, lines 20-27. Andrews does not show a mouthpiece made from a polymeric shell. Bergersen teaches that it is known to form mouthpieces in shells 13 from polymers, column 2, lines 32-50. It would be obvious to one of ordinary skill in the art to modify Andrews to include using a polymeric shell as shown by Bergersen in order to make use of well known mouthpiece structures for moving teeth in a desired manner. The above combination does not show the use of a plurality of successive appliances, other than a wire and bracket system. Kurz teaches using successive shells including intermediate appliances, column 3, lines 22-39. It would be further obvious to one of ordinary skill in the art to modify the above combination to include using successive appliances as shown by Kurz in order to make use of known methods of moving teeth in series to obtain the desired results. The above combination does not show digitally generating

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the appliances. Andreiko teaches digitally forming appliances. It would be obvious to one of ordinary skill in the art to modify the above combination to include using computers in generating appliances as shown by Andreiko in order to make use of known ways of using information systems such as forming a model using digital information. The difference in placement of cavities is the known parameter for adjusting the amount that the teeth are moved by, therefore, this difference is held to be an obvious matter of choice in the degree of a known parameter to obtain a desired degree of movement. The number of intermediate appliances used is an obvious matter of choice in the number of a known step used to obtain a known result. As to claim 12, the specific time interval used is an obvious matter of choice in the degree of known parameters, such as difference in placement of the cavities or number of appliances used, and therefore, is also an obvious matter of choice to the skilled artisan for the same reasons given above. As to claim 25, the specific type of movement used is an obvious matter of choice in well known ways of moving teeth to one of ordinary skill in the art. As to claim 26, the process of diagnosing before choosing a treatment plan is well known in all medical arts, therefore, choosing between known systems in the art when needed by a patient would be obvious to one of ordinary skill in the art. As to claim 30 and 31, Kurz teaches using a plaster model.

Claims 12—31 and 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews (4591341) in view of Bergersen (3950851) and Kurz (4348178). Andrews teaches that it is known to use a bracket and wire system, column

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1, lines 15-17, followed in series by using a mouthpiece, column 1, lines 20-27.

Andrews does not show a mouthpiece made from a polymeric shell. Bergersen teaches that it is known to form mouthpieces in shells 13 from polymers, column 2, lines 32-50.

It would be obvious to one of ordinary skill in the art to modify Andrews to include using a polymeric shell as shown by Bergersen in order to make use of well known

mouthpiece structures for moving teeth in a desired manner. The above combination

does not show the use of a plurality of successive appliances, other than a wire and

bracket system. Kurz teaches using successive shells including intermediate

appliances, column 3, lines 22-39. It would be further obvious to one of ordinary skill in

the art to modify the above combination to include using successive appliances as

shown by Kurz in order to make use of known methods of moving teeth in series to

obtain the desired results. The difference in placement of cavities is the known

parameter for adjusting the amount that the teeth are moved by, therefore, this

difference is held to be an obvious matter of choice in the degree of a known parameter

to obtain a desired degree of movement. The number of intermediate appliances used

is an obvious matter of choice in the number of a known step used to obtain a known

result. As to claim 12, the specific time interval used is an obvious matter of choice in

the degree of known parameters, such as difference in placement of the cavities or

number of appliances used, and therefore, is also an obvious matter of choice to the

skilled artisan for the same reasons given above. As to claim 25, the specific type of

movement used is an obvious matter of choice in well known ways of moving teeth to

one of ordinary skill in the art. As to claim 26, the process of diagnosing before

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choosing a treatment plan is well known in all medical arts, therefore, choosing between known systems in the art when needed by a patient would be obvious to one of ordinary skill in the art. As to claim 30 and 31, Kurz teaches using a plaster model.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews in view of Kurz. Andrews teaches that it is known to use a bracket and wire system, column 1, lines 15-17, followed in series by using a mouthpiece, column 1, lines 20-27. not show the use of successive appliances, other than a wire and bracket system. Kurz teaches using successive shells including intermediate appliances, column 3, lines 22-39. It would be further obvious to one of ordinary skill in the art to modify the above combination to include using successive appliances as shown by Kurz in order to make use of known methods of moving teeth in series to obtain the desired results. The difference in placement of cavities is the known parameter for adjusting the amount that the teeth are moved by, therefore, this difference is held to be an obvious matter of choice in the degree of a known parameter to obtain a desired degree of movement. The number of intermediate appliances used is an obvious matter of choice in the number of a known step used to obtain a known result. As to claim 11, the specific time interval used is an obvious matter of choice in the degree of known parameters, such as difference in placement of the cavities or number of appliances used, and therefore, is also an obvious matter of choice to the skilled artisan for the same reasons given above.

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Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews in view of Bergersen and Kurz as applied to claim 30 above, and further in view of Andreiko et al (5454717). The above combination does not show using a digital model. Andreiko teaches using a digital model. It would be further obvious to one of ordinary skill in the art to modify the above combination to include using a digital model as shown by Andreiko in order to better analyze the patient's condition.

Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews (4591341) in view of Chishti et al (5975893). Andrews teaches that it is known to use a bracket and wire system, column 1, lines 15-17, followed in series by using a mouthpiece, column 1, lines 20-27. Andrews does not show a mouthpiece made from a polymeric shell. Chishti teaches that it is known to form mouthpieces in shells 13 from polymers and to use a plurality of shells to move teeth. It would be obvious to one of ordinary skill in the art to modify Andrews to include using a plurality of successive polymeric shell as shown by Chishti in order to make use of well known mouthpiece structures for moving teeth in a desired manner.

### ***Response to Arguments***

Applicant's arguments filed July 8, 2002 have been fully considered but they are not persuasive. Kurz teaches using successive shells including intermediate appliances, column 3, lines 22-39, this teaching is not negated by the use of a motor

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and wire. The motor and wire of Kurz are used to increase the speed of application, and one of ordinary skill in the art would obviously realize that the appliances can be used without the speed enhancing features. Applicant's argues that there is no showing of digitally shaped appliance, however, Andreiko has been applied to show using computers to digitally generate appliances. As to claim 6, applicant argues that the prior art does not show polymeric shells having cavities as claimed, however, the claim is not directed to "polymeric" and the prior art does show shells having different cavities as would be understood by one of ordinary skill in the art. As to the combination of Andrews and Chishti, applicant argues there is no teachings to combine, however, Andrews does teach using a mouthpiece and Chishti is directed to a known method of using a plurality of mouthpieces instead of one to solve the problem of moving teeth, as such, the combination is both proper and obvious.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to John Wilson at telephone number (703) 308-2699.



**John J. Wilson**  
**Primary Examiner**  
**Art Unit 3732**

jjw

August 19, 2002

Fax (703) 308-2708

Work Schedule: Monday to Friday – Flex Time